

ORIGINAL



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AZ CORP COMMISSION
DOCKET CONTROL

September 21, 2007

Ms. Blessing Chukwu
Executive Consultant III
Utilities Division
Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

Re: Palo Verde Utilities Company, LLC and Santa Cruz Water Company, LLCs' Response to
Staff's Insufficiency Letter dated September 12, 2007
Docket No. SW-03575A-07-0300 and W-03576A-07-0300

Dear Ms. Chukwu:

Enclosed please find the responses of Palo Verde Utilities Company, LLC and Santa Cruz Water Company, LLC, to Staff's Insufficiency Letter dated September 18, 2007.

Sincerely,

Timothy J. Sabo

TJS:da

cc: Docket Control (15 copies + the original)
Dorothy Hains
Enclosures

Arizona Corporation Commission
DOCKETED

SEP 21 2007



PALO VERDE UTILITIES COMPANY, L.L.C.
AND SANTA CRUZ WATER COMPANY, L.L.C.
RESPONSES TO INSUFFICIENCY LETTER DATED SEPTEMBER 12, 2007
Docket No. SW-03575A07-0300 and W-03576A-07-0300

1. According to the Master Plan for Legends ("Master Plan"), the proposed population density is based on greater than or equal to six dwelling units per acres, the developer proposes to install single/multi-family residential, 11 schools, parks, commercial area and golf course. In reviewing the existing CC&N maps; it does not seem cost effective that the Company delivers the treated effluent from the existing Palo Verde wastewater treatment plant ("Palo Verde") to the requested area at present time. Please explain, how the Company plans to serve the golf course irrigation, if the golf course has to be developed first before any other development.

Response: The 6 units/acre is the cut off between high and low density housing and not the actual proposed density. The proposed buildout numbers are 21,739 units and 5,582 acres resulting in 3.9 units/acre.

At present the phasing of the golf course has not been determined. If built in a later phase there will be sufficient recycled water to service the irrigation needs. If the developer builds the golf course in an earlier phase when recycled water is not available to meet the demand of the golf course, SCWC will purchase excess M&I surface water credits that can be delivered to Legends via the MSIDD, or recover recycled water it has recharge elsewhere in the ADWR Designation area for golf course irrigation. If surface water is used, a surface water irrigation pump station will be constructed in order to supply surface water for irrigation water in the early phases before recycled water is available. The pump station will "backfeed" the reclaimed system through an air gap structure and would be located on the water distribution facility site within Legends.

Respondent: Graham Symmonds, Senior Vice President and Chief Technical Officer

2. The Master Plan indicates that the drinking water source is dependent on groundwater. However, the requested water construction plan shows that CAP (surface water) treatment plant is planned. Please explain.

Response: At this time, SCWC is evaluating the wells as discussed in the application. Through well modification and rehabilitation designed to isolate high nitrate or arsenic areas in the aquifer, it is anticipated that MCL's will be met through a blending and/or treatment. Treatment will be provided as necessary, and thus treatment costs have been provided.

A thorough evaluation of the water options is ongoing, including:

- access to surface, recycled and groundwater
- cost effectiveness of utilizing and treating groundwater
- construction of a surface water treatment facility
- utilization of a mobile/temporary treatment system for surface or groundwater

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- blending options, and
- potential hybrid options

As with all ground-water-based systems, the water quality varies by well and structure. Nitrate, arsenic and fluoride are expected to be discovered in varying concentrations as the evaluation of the water supplies is finalized. SCWC maintains the following strategies with respect to water quality:

1. Identify and rehabilitate high quality wells in the service area. Clearly this represents the least costly (from a capital and operations point of view) option for the SCWC.
2. Development of blending mechanisms and control strategies to blend high quality water with water that is of poorer quality to ensure compliance with the Safe Drinking Water Act and AAC R18-4.
3. Re-screen, deepen or otherwise modify existing wells to isolate areas of high contaminant concentrations or access higher quality water.
4. Provide a surface water treatment option (CAP water is available via the Maricopa-Stanfield Irrigation and Drainage District (MSIDD) canal system which passes many areas in the extension area).
5. Provide slipstream treatment processes which in conjunction with an effective blending plan will meet the requirements.
6. Provide full flow treatment of groundwater.

Respondent: Graham Symmonds, Senior Vice President and Chief Technical Officer

3. According to the initial water quality information, all four irrigation wells, having potential to convert to drinking water wells, contain nitrate and arsenic levels exceeding MCL of nitrate and arsenic. Since the requested area is approximately 13 miles away from the Company's North zone water campus, blending plan may not be a cost effective solution, individual arsenic/nitrate removal treatment plant(s) should be planned. Please provide the Company's proposed plan of how to resolve the nitrate and arsenic problems.

Response: The water distribution center for Legends is planned for the common WRF and WDC site located at Clayton Road. Treatment costs have been programmed into the cost estimates in the event that treatment will be required, and this treatment system will be constructed at the WDC site in Legends. There are no plans to bring water from SCWC's north service area to serve any part of Legends.

Respondent: Graham Symmonds, Senior Vice President and Chief Technical Officer

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4. According to ADWR's well database, the maximum pump capacities for the four proposed wells are in the range of 375 gpm to 1,100 gpm, some wells were drilled from 1944 to 1979. Is it still cost effective to develop one of those old irrigation wells? Please explain.

Response: SCWC has successfully employed its well evaluation program in its existing and planned service areas. Thus far, SCWC has found wells suitable for potable use and cost-effective to rehabilitate versus drilling a new well. The decision about whether to rehabilitate an existing well is made through this evaluation program, as follows:

1. Phase 1 – review of available ADWR and ADEQ data and physical assessment of wells;
2. Phase 2 – analytical sampling of flow rates and quality (depth specific sampling, spinner logs);
3. Phase 3 – rehabilitation. Installation of sanitary seal, re-screening, renewal of electrical control system, installation of SCADA control system, New Source Approval.

During Phase 2 of the evaluation program, a full suite of analytical data is taken from the water including:

Metals
Inorganics
Synthetic Organic Compounds
Volatile Organic Compounds
Nutrients
Bacteriological Analyses
Radiochemical constituents

The results of these analyses will determine the requirements for treatment of the groundwater. On completion of the Phase 2 work, wells suitable for inclusion in the potable inventory will be rehabilitated.

Respondent: Graham Symmonds, Senior Vice President and Chief Technical Officer

PALO VERDE UTILITIES COMPANY, L.L.C.
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5. The Master Plan indicated that the Clear Creek and Associates prepared the hydrogeologic study. Is this the same hydrogeologic study the Company provided in Docket Nos. SW-03575A-05-0307 and W-03576A-05-0307 project? If it is not, please provide a copy for engineering staff to use.

Response: The hydro report used as a reference by CMX for the Water Master Plan is dated March 20, 2006. A copy of the report is attached.

Respondent: Graham Symmonds, Senior Vice President and Chief Technical Officer

6. Since the Company projected growth in the requested area is 1,100 customers in the first five year, it could be very costly for the Company to install a small on-site package plant and/or to install an approximately 13 mile force main to treat sewage from the requested area in the Palo Verde Treatment Plant. Does the Company plan to use vault and haul technique to handle the first five year growth?

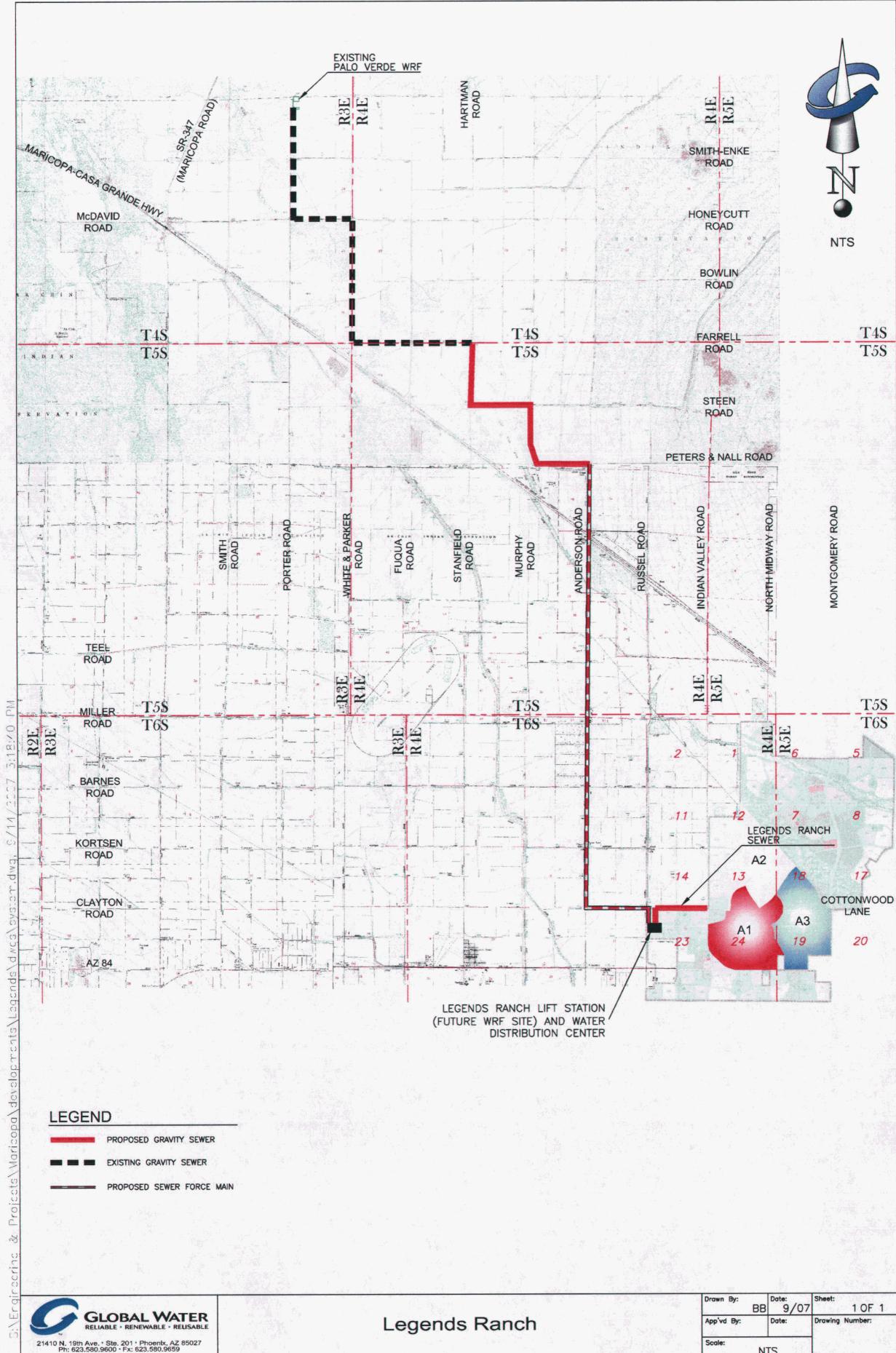
Response: The total forcemain length would be 8 miles to the gravity system and would serve as an interim solution until a water reclamation facility is constructed. Once a facility is constructed, the forcemain would be converted to a recycled water line for continued use. The lift station/forcemain would provide a more reliable system than a vault and haul scenario. Furthermore, the vault and haul method results in operational issues when septic wastewater is introduced to the water reclamation facility.

Respondent: Graham Symmonds, Senior Vice President and Chief Technical Officer

7. Please indicate the proposed water and sewer treatment plant site location, since the vicinity map does not show the location of Russell Rd, Clayton Rd, Kortsen Rd, Indian Valley Rd or North Midway Rd.

Response: Exhibit is attached.

Respondent: Graham Symmonds, Senior Vice President and Chief Technical Officer





*Practical Solutions
in Groundwater Science*

March 20, 2006

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Mr. Scott Lee, P.E.
Engineering Manager
Global Water Management, LLC
22601 N. 19th Avenue, Suite 210
Phoenix, Arizona 85027

**Well Inventory and Data Review
Global Water Expanded Southeast Service Area
Maricopa, Arizona**

Dear Scott:

This letter report documents the results of the well inventory and data review prepared for the Global Water Southeast Service Area in Maricopa, Arizona. The Study Area encompasses approximately 117 square miles of land located within the Pinal Active Management Area (AMA) as shown on Figure 1.

In preparation to serve future developments in the area, Global Water Management (Global) has retained Clear Creek Associates to investigate data on existing wells within the Southeast Service Area. The goal is to locate existing wells suitable for conversion to potable supply wells, which will minimize initial capital costs.

WELL INVENTORY

A well inventory search for the study area was conducted using the Arizona Department of Water Resources (ADWR) "Wells 55" database (ADWR, November 2005). Results of the inventory search are presented in Table 1.



March 20, 2006
Mr. Scott Lee, P.E.
Global Water Management, L.L.C.

The Study Area includes an area of approximately 117 square miles. Within the Study Area, the ADWR database indicated 412 registered wells. Information relating to the wells within the study area is summarized in Table 1, and the well locations are illustrated on Figures 2 through 8. The well categories illustrated on Figures 2 through 8 include all registered wells. The only well types considered for municipal source well conversion were irrigation wells, municipal wells, industrial wells, stock wells, and domestic wells. Even though other types of wells such as piezometers, geotechnical borings, cathodic protection wells, monitoring wells, hydrologic test wells, and "cancelled" wells are included on the well inventory map, they were not considered because they would not typically be production well candidates.

CANDIDATE WELL SELECTION CRITERIA

Wells being considered for this project are located within the current Southeast Service Area boundaries. The candidate well selection criteria include wells having a diameter of 16 inches or larger to accommodate large pumping equipment; having a reported pumping rate of 1,000 gallons per minute (gpm) or higher; a saturated thickness of approximately 300 feet or more, and were reportedly installed after 1960. If only partial records were available in the ADWR database, and the existing data met the criteria for a well being considered, it was recommended for further analysis. It is assumed that some of the wells recommended for further analysis will be found to be unusable during the initial well site reconnaissance, reducing the potential supply well site candidates.

Based on these criteria, Clear Creek Associates identified 77 wells that are recommended for further evaluation. These wells are highlighted in blue in Table 1, and circled on Figures 2 through 8.



March 20, 2006
Mr. Scott Lee, P.E.
Global Water Management, L.L.C.

Although the data obtained from the ADWR database are the best readily available, those records may not be accurate in all cases.

AREA HYDROGEOLOGY

There are three significant hydrogeologic units within the Maricopa-Stanfield sub-basin of the Pinal AMA including: the Upper Alluvial Unit (UAU), the Middle Silt and Clay Unit (MSCU), and the Lower Conglomerate Unit (LCU). The regional aquifer system is characterized by downward vertical hydraulic head gradients and delayed drainage from the UAU to the LCU (Corkhill and Hill, 1990).

The UAU consists primarily of unconsolidated to slightly consolidated interstratified lenses of sand and gravel, which are exposed at land surface. The UAU is reported to be an "*unconfined*" aquifer, which is in equilibrium with atmospheric pressure, so it does not have artesian pressure to make it rise above the depth at which it was encountered.

The MSCU consists of fine-grained sediments such as silt, clay, and fine sand. The MSCU is reported to be a "*confined*" aquifer, which is under artesian pressure that exceeds atmospheric pressure, so the groundwater level will rise above the depth at which it was encountered. This aquifer is regionally less productive than the UAU (Corkhill and Hill, 1990).

The LCU is reportedly characterized by semi-consolidated to consolidated coarse-grained sediments. Where the LCU aquifer is in direct contact with the UAU (because the MSCU is missing in some areas), it is generally *unconfined*. Where the MSCU is present, the LCU is generally under *confined* to *semi-confined* aquifer conditions (Wickham and Corkhill, 1989).

SOUTHEAST AREA GROUNDWATER QUALITY



March 20, 2006
Mr. Scott Lee, P.E.
Global Water Management, L.L.C.

The majority of wells located within the study area are irrigation wells with limited water quality data available in the ADWR GWSI database (ADWR, June, 2005).

Fluoride

The water quality data for fluoride (F) obtained from ADWR are presented in Table 2. The concentration of fluoride is shown in milligrams per liter (mg/l). The Primary Drinking Water Standard for fluoride is 4 mg/l. No wells that have been tested by ADWR within the Study Area have reported concentrations exceeding this Maximum Contaminant Level (MCL). Fluoride concentrations in the Study Area range from 0.3 to 7.5 mg/l (Table 2).

Electrical Conductivity

The electrical conductivity (EC) values obtained from the ADWR database are presented in Table 2. Electrical conductivity of water is defined as the ability to conduct an electrical current. Since electrical currents flow through ionized or mineralized water, the amount of dissolved salts and minerals increase the electrical conductivity. This value is important since total dissolved solids (TDS) concentrations can be generally estimated by multiplying the electrical conductivity values by 0.65. The electrical conductivity values in the Study Area are shown in microsiemens per centimeter ($\mu\text{S}/\text{cm}$), and range from approximately 400 to 7,370 $\mu\text{S}/\text{cm}$ (Table 2).

Nitrate

Major sources of nitrate include fertilizers, livestock feeding operations, inputs to sewer and septic systems, atmospheric deposition, industrial waste, and stream flow. There were no data available for nitrate concentrations in the area. However, due to past and current agricultural



March 20, 2006
Mr. Scott Lee, P.E.
Global Water Management, L.L.C.

land use in the Study Area, elevated nitrate levels are a likely problem in the shallow aquifer. The Primary Drinking Water Standard for nitrate is 10 mg/l.

Arsenic

There were no data available for arsenic in the Study Area. Elevated arsenic concentrations are a common naturally-occurring groundwater quality problem in many portions of Central and Southern Arizona. The current U.S. Environmental Protection Agency (US EPA) MCL for arsenic in drinking water is 50 micrograms per liter ($\mu\text{g/l}$). A new MCL for arsenic of 10 $\mu\text{g/l}$ will take effect January 2006.

RECOMMENDATIONS

Based on the well inventory data, Clear Creek has identified a total of 77 wells that meet the selection criteria outlined above for potential conversion to public supply wells. Accordingly, we recommend these wells for further assessment.

The water quality of the wells in this area is largely unknown. However, based on Clear Creek Associates experience, arsenic and nitrate concentrations in many wells are likely above their MCL and Primary Drinking Water Standards, respectively. Based on historical sample results collected by ADWR, fluoride may be close to the MCL of 4 mg/l in some wells. Based on estimations derived from the ADWR electrical conductivity data, TDS will also be high in some wells (Table 2).

Clear Creek Associates appreciates this opportunity to provide hydrogeologic services to Global Water Management, L.L.C. If you require additional information or have any questions regarding the analysis, findings, or recommendations presented herein, please call.



March 20, 2006
Mr. Scott Lee, P.E.
Global Water Management, L.L.C.

Sincerely,
CLEAR CREEK ASSOCIATES, PLC

A handwritten signature in black ink, appearing to read "David J. Wrzosek".

David J. Wrzosek, GIT
Project Hydrologist

A handwritten signature in black ink, appearing to read "Marvin F. Glotfelty".

Marvin F. Glotfelty, R.G.
Principal Hydrogeologist

cc: Wesley Smith – Global Water Management
Robin Bain – Global Water Management

Attachments: Figure 1 - Expanded Southeast Service Area Well Evaluation Boundaries
Figure 2 - Registered Well Inventory Map - Southeast Service Area
Figure 3 - Registered Well Inventory Map - Southeast Service Area
Figure 4 - Registered Well Inventory Map - Southeast Service Area
Figure 5 - Registered Well Inventory Map - Southeast Service Area
Figure 6 - Registered Well Inventory Map - Southeast Service Area
Figure 7 - Registered Well Inventory Map - Southeast Service Area
Figure 8 - Registered Well Inventory Map - Southeast Service Area
Table 1 - Registered Well Inventory, Southeast Service Area
Table 2 - General Water Quality



TABLE 1
Well Inventory
Southeast Service Area
Global Water Management

TABLE I
Well Inventory
Southeast Service Area
Global Water Management

TABLE 1
Well Inventory
Southeast Service Area
Global Water Management

**Southeast Asia
Global Warming**

TABLE 1
Well Inventory
Southeast Service Area
Global Water Management

TABLE 1
Well Inventory
Southeast Service Area
Global Water Management

TABLE 1
Well Inventory
Southeast Service Area
Global Water Management

SOUTHERN CALIFORNIA AREA
GLOBAL TEAM MANAGEMENT

NOTE: Please read **Wards** before further evaluation.

TABLE 2
General Water Quality
Southeast Service Area
Global Water Management

LOCATION	REGISTRATION	WELL DEPTH	DATE MEASURED	CONDUCTIVITY	TDS	FLUORIDE	TEMP	PH	ALKALINITY
D-05-04 23BBB	623839	1050	08/09/86	1740	1131	0.6	29		
D-05-04 28DDA		900	08/15/81	1470	956	3.4	26		
D-05-04 29DDD	623846	600	09/09/76	1100	715	3.5			
D-05-04 29DDD		400	09/09/76	834	542	1	31		
D-05-04									
30DDD2UNSURV		875	02/17/88	501	326	1.2	25.5	7.9	
D-05-04									
30DDD2UNSURV	624089	800	05/06/93	1140	741	4.5	29	7.8	
D-05-04									
30DDD2UNSURV	624089	800	06/29/89	1290	839	5.5	29.5	8	
D-05-04 31DDD	624089	800	09/19/84	1290	839	4.5	29		
D-05-04 32ADD	624087	800	08/15/89	1225	796	3.8	28.5	8	
D-05-04 32ADD	624087	800	09/19/84	1310	852	4	29		
D-05-04 32ADD	624087	800	05/17/93	1140	741	4.5	28.5	7.9	
D-05-04 32ADD	613928	1000	09/12/41	473	307		25.5		
D-05-04 32ADD	624088	685	06/24/84	545	354	0.8	28.5		
D-05-04 32DDD	605622	550	06/28/89	1180	767	0.9	28.5	7.3	
D-05-04 32DDD	624085	840	09/24/84	480	312	0.8	27		
D-05-04 33AAD	624085	840	04/25/84	512	333	0.6	27		
D-05-04 33DBB	624085	840	04/22/83	519	337	0.7	27.5		
D-05-04 33DBB	624085	840	09/09/76	493	320	0.5	29		
D-05-04 35CCB	613930	1397	06/28/89	510	332	0.8	28.5	8.2	
D-05-04 35CCB	613930	1397	06/03/84	560	364	0.8	29		
D-05-04 35CCB	613930	1397	09/09/76	453	294	0.4	30		
D-05-04 35DDD	612678	1025	08/15/89	1280	832	2.5	28	7.6	
D-05-04 35DDD	612678	1025	05/06/93	1280	839	3	29.5	7.7	
D-05-05 20DAA	615456	905	11/07/57	1080	689	3.6	30.5	7.4	
D-06-03 09BBB	605823	1490	06/30/89	1340	871	4.5	34	7.9	
D-06-03 09BCC2	624092	917	04/25/84	495	322	0.6	27		
D-06-03 09BCBA	605624	1410	07/03/89	2810	1827	3	30.5	7.7	
D-06-03 09CCC2	605624	1410	09/08/76	1520	988	2.5	32		
D-06-03 09CCC2	617243	695	08/15/89	1200	780	3.5	29	7.7	
D-06-03 10CCC1	617243	695	08/19/84	1320	858	2.8			
D-06-03 10CCC1	613932	857	09/09/76	477	310	0.5	28		
D-06-03 10CCC2	624086	820	08/15/41	477	310		25		
D-06-03 10CCC2	624086	820	04/25/84	885	575	0.6	26.5		
D-06-03 10CCC2	624084	965	09/09/76	683	444	0.5	27		
D-06-03 10CCC2	624084	965	08/31/84	775	504	0.5	27.5	7.8	116
D-06-03 11CDD2	605625	1100	06/29/89	1550	1008	0.9	32	7.9	
D-06-03 11CDD2	625527	2660	06/09/93	810	387	1.7	33	8.3	
D-06-03 11DDD	625527	2660	07/11/86	570	371	1.2	28		
D-06-03 11DDD	625527	2660	08/11/84	580	377	1.5	33		
D-06-03 11DDD	625525	1290	05/08/93	570	371	0.7	28.5	8	
D-06-03 11DDD	625525	1290	06/27/89	560	364	0.7	28.5	7.9	
D-06-03 11DDD	615363	1000	06/27/89	850	553	0.7	26	7.5	
D-06-03 12DCD	617594	823	05/05/93	1300	845	3	28	7.1	
D-06-03 12DCD	617594	823	08/15/89	1360	884	7.5	28.5	7.7	
D-06-03 15ACC	617594	823	04/23/84	1320	858	4.5	28.5		
D-06-03 15ADD	617594	823	09/09/76	1330	865	1.8	30		
D-06-03 15ADD	615364	480	06/27/89	730	475	0.7	27.5	8	
D-06-03 15ADD	615364	480	06/22/93	725	471	0.7	26.5	7.6	
D-06-03 15BCC1	631258	930	05/24/93	870	566	0.9	28.5	8.1	
D-06-03 15BCC3	625524	1458	06/08/01	505	328	1.4	31	8.4	132
D-06-03 15BCC3	625524	1458	04/27/98	510	332	1.6	31	8.4	135
D-06-03 15BDC	625524	1458	05/12/97	495	322	1.5	32	8.5	137
D-06-03 15BDC	625524	1458	05/31/02	500	325	1.4	31	8.3	127
D-06-03 16CDD2	625524	1458	04/27/99	570	371	1.4	31	8.4	135
D-06-03 21BCC1	625524	1458	07/11/84	485	315	1.6	31.5	8.3	119
D-06-03 22CAA	625524	1458	04/16/96	485	315	1.5	31	8.4	137
D-06-03 22DCC	625524	1458	04/04/95	500	326	1.5	31.5	8.5	133
D-06-03 22DCC	625524	1458	03/08/94	500	325	1.5	30.5	8.2	129
D-06-03 22DCC	625524	1458	05/25/93	495	322	1.5	31	8.5	136
D-06-03 23ACC	625524	1458	03/02/92	500	325	1.6	31	8.5	139
D-06-03 23ACC	625524	1458	03/05/91	495	322	1.5	31	8.5	139
D-06-03 23ACC	625524	1458	06/05/90	490	319	1.3	31.5	8.5	142
D-06-03 23BCC	625524	1458	07/03/89	522	339	1.6	31.5	8.4	
D-06-03 23BCC	625524	1458	03/07/88	490	319	1.7	31.5	8.5	140
D-06-03 23CDC	625524	1458	04/25/84	494	321	1.6	30.5		
D-06-03 23DCA	625524	1458	08/05/85	501	326	1.4	31.5	8.4	140
D-06-03 23DCC	625524	1458	03/06/89	495	322	1.6	31	8.3	139
D-06-03 23DCC	625524	1458	07/29/87	490	319		31	8.2	127
D-06-03 23DCC	617595	1120	09/14/84	1330	865	2	29		
D-06-03 26BCC	625545	1172	09/08/84	1055	686	4.8	30		
D-06-03 26BCC	625545	1172	07/09/86	1090	709	4.6	30.5	8.1	221
D-06-03 26BCC	625545	1172	07/31/85	1090	709	3.3	29	8.2	210
D-06-03 26BCC	629477	1240	09/15/81	490	319		25		
D-06-03 26BCC	615425	940	09/20/84	520	338	0.8	29		
D-06-03 26BCC	615422	1232	07/08/88	536	348	30	7.6		

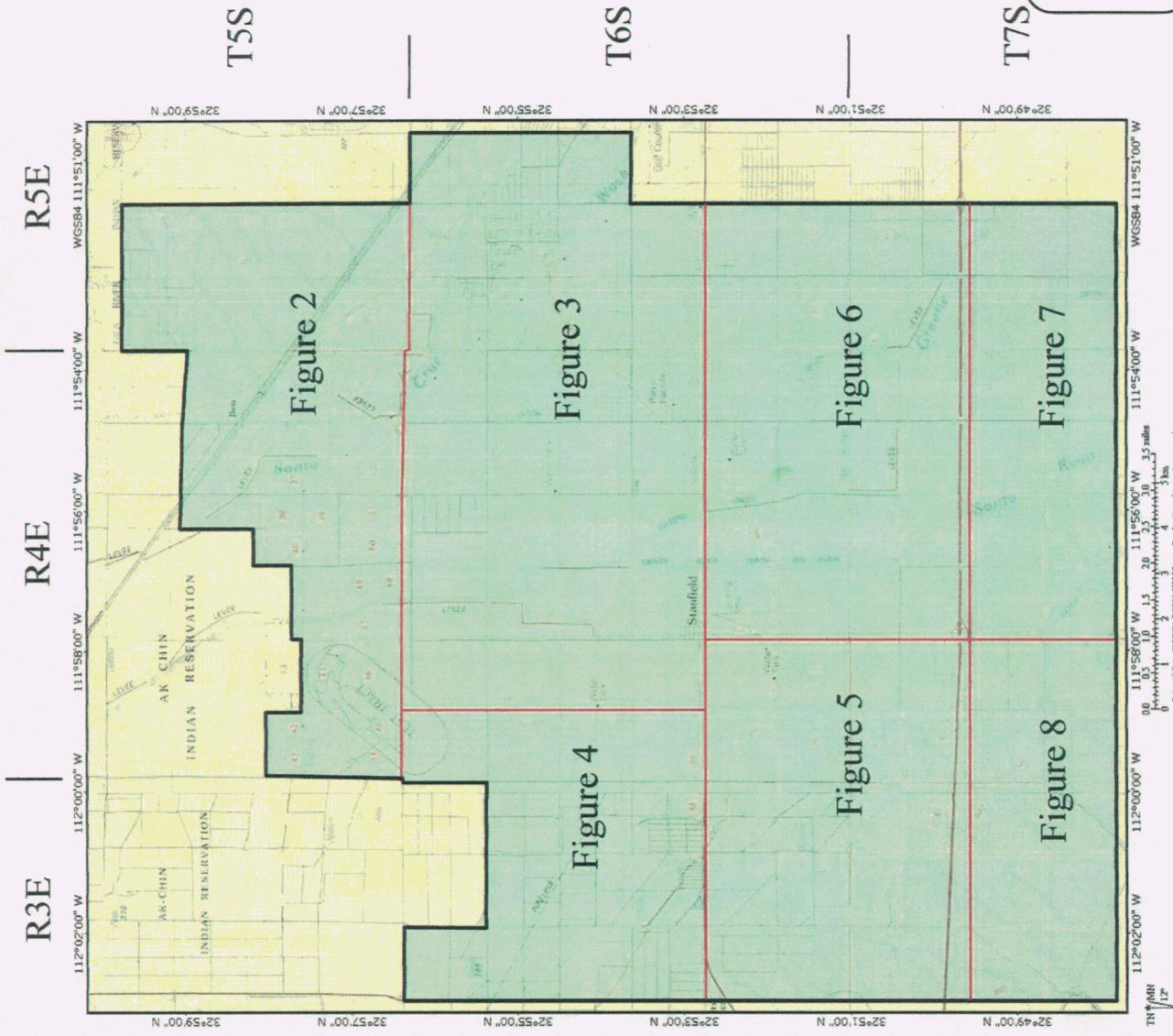
TABLE 2
General Water Quality
Southeast Service Area
Global Water Management

LOCATION	REGISTRATION	WELL DEPTH	DATE MEASURED	CONDUCTIVITY	TDS	FLUORIDE	TEMP	PH	ALKALINITY
D-06-03 26BCC	615422	1232	09/09/76	487	317	0.4	29		
D-06-03 26BCC	615422	1232	11/08/84	495	322	0.7	29.5		
D-06-03 26CDD2	615422	1232	06/29/89	550	358	0.8	29	8.1	
D-06-03 27CDC	615423	1015	07/11/86	615	400	0.6	27		
D-06-03 34AAD	615424	820	07/22/86	535	348	0.6	28	7.7	105
D-06-03 34AAD	625541	1500	08/24/76	1160	754	3	31		
D-06-03 35ADD	625541	1500	09/18/84	1180	767	3.8	29.5		
D-06-03 35ADD	625541	1500	07/17/84	1140	741	4.1	29.5	7.8	220
D-06-03 35BCC	625546	1254	05/28/93	1480	962	3	29	7.9	
D-06-03 35BCC	625542	1001	08/24/76	1300	845	3	30		
D-06-03 35BDC	625542	1001	02/17/58	1080	709	3	29.5		
D-06-03 35DDC	625540	500	08/15/93	1300	845	1.8	27.5	7.9	
D-06-03 35DDC	625540	500	09/05/84	1330	865	2.5	29.5		
D-06-03 35DDC		362	09/15/41	486	322		24.3		
D-06-03 35DDD2	085665	1720	05/08/84	1260	819	3.5	28		
D-06-03 35DDD2	085665	1720	05/24/93	1280	832	3.5	30	8	
D-06-03 35DDD2	605618	680	01/01/55				27		
D-06-04 01DDD	612767	984	09/15/41	494	321		24.5		
D-06-04 07CCC		368	03/20/51	546	355		24.5		141
D-06-04 07CCD		368	09/23/49	472	307	0.7	24.5		138
D-06-04 07DDC		368	09/14/49	523	340	0.6	25		148
D-06-04 08BDC	615417	1000	09/09/76	545	354	0.3	28		
D-06-04 08BDC	622159	990	11/09/88	1140	741	2	25.5		
D-06-04 08BDC	622159	990	08/16/89	1200	780	1	25.5	7.7	
D-06-04 08BDC	622159	990	08/09/76	621	404	0.7	30		
D-06-04 08BDC	622159	990	09/16/41	526	342		25		
D-06-04 09ADD	622159	990	10/24/90	1280	832	1	26	6.9	
D-06-04 09CDD		1172	05/08/84	990	644	0.6	28		
D-06-04 09DDD1	615406	1425	08/24/76	1240	806	1.7	31		
D-06-04 09DDD2	625547	1400	04/03/97	810	527	2.4	28.5	7.9	191
D-06-04 09DDD2	625547	1400	04/23/92	925	601	3.3	28.5	8.1	201
D-06-04 09DDD2	625547	1400	03/04/91	1020	663	2.6	28.5	8	224
D-06-04 10ADD	625547	1400	03/06/89	990	644	2.6	28.5	8	226
D-06-04 10DAB	625547	1400	04/06/95	980	637	2.8	29	8	220
D-06-04 10DDA	625547	1400	05/23/94	1000	650	2.7	29	8	213
D-06-04 11CDA	625547	1400	05/27/83	979	636	2.8	28.5	8.1	225
D-06-04 11CDA	625547	1400	04/15/96	930	605	2.8	28.8	8.1	228
D-06-04 11CDA	605057	1000	05/13/93	1040	676	0.7	26	7.8	
D-06-04 11DDC	623471	770	05/06/93	770	501	0.5	28.5	7.8	
D-06-04 11DDD		501	08/23/60	545	384		26.5		
D-06-04 11DDD		501	09/16/41	507	330	1.6	25.5		
D-06-04 12BCC2		501	09/14/49	555	361		26.5		
D-06-04 12BCC3	625534	1115	08/24/76	577	375	0.9	28.5		
D-06-04 13ADD	625538	503	07/28/67	1060	689	1.9	28	7.7	194
D-06-04 13ADD	625538	503	03/22/87	1078	701	1.6	28	7.7	222
D-06-04 13ADD	625538	503	08/18/94	1200	780		28	8	
D-06-04 13ADD		501	09/18/84	660	429	1	29		
D-06-04 13ADD	603936	1970	05/24/94	740	481	1.6	33.5	8.6	
D-06-04 14BDD	625537	600	06/26/89	730	475	1.6	28.5	8.5	
D-06-04 14CDC1	625550	1042	08/10/89	550	358	1.2	30	8.5	
D-06-04 14DDA	625550	1042	05/27/93	550	358	1.1	29.5	8.3	
D-06-04 22CDD	625550	1042	09/14/64	559	363	1.1	30		
D-06-04 22DDDD	625538	501	08/24/76	644	419	0.7	31		
D-06-04 25CDD	625538	501	09/16/41	535	348		26		
D-06-04 25DDC	603940	640	05/24/94	2210	1437	0.8	27.5	8.1	
D-06-04 27CDD		760	01/18/58	961	625	2.4	26.5	7.9	
D-06-04 27CDD	605518	590	04/25/84	2340	1521	1.1			
D-06-04 27CDD	615403	1000	08/31/82	1090	709	2.4	28	7.8	204
D-06-04 27DCC	605497	1200	07/13/84	2330	1515	0.5	29		
D-06-04 34DCC	619755	780	07/06/98	605	393		29		7.3
D-06-04 34DDC	619755	780	01/20/83	720	468	0.5	26.5		
D-06-04 34DDC	619755	780	05/04/93	850	553	0.5	26	7.4	
D-06-04 34DDC	619755	780	07/27/87	600	380	0.5	29		7.5
D-06-04 34DDC	619755	780	04/17/85	590	384	0.2	29		
D-06-04 35DCC	625552	1103	04/10/84	420	273	2.5	26.5		
D-06-04 35DDD	625552	1103	06/01/93	1320	858	0.6	24.5	7.3	
D-06-04 36ADD	625552	1103	06/14/89	500	325	0.8	27.5	8.4	
D-06-04 36DDD		500	09/16/41	582	378		25.5		180
D-06-05 08CAD		320	07/16/51	1630	1060		26		
D-06-05 08CDD		320	05/03/51	1580	1027		26		
D-06-05 08CDD		320	08/23/50	1550	1008		25.5		
D-06-05 08DCC		320	09/14/49	1610	1047	0.9	25		
D-06-05 08DCC		320	09/15/41	868	564	0.7	25		
D-06-05 17AAD	625530	1155	04/10/84	630	410	0.9	26.5		
D-06-05 17AAD	625533	1278	04/10/84	600	390	1.1	28		
D-06-05 17ADD	625533	1278	05/03/93	810	527	1.1	27.5	7.5	
D-06-05 17ADD	625532	1151	04/10/84	540	351	1.1	28.5		
D-06-05 17ADD	625532	1151	08/25/76	566	368	0.7	29		

TABLE 2
General Water Quality
Southeast Service Area
Global Water Management

LOCATION	REGISTRATION	WELL DEPTH	DATE MEASURED	CONDUCTIVITY	TDS	FLUORIDE	TEMP	PH	ALKALINITY
D-06-05 17ADD		150	08/23/50	5860	3809		23.5		
D-06-05 19ADC		150	04/09/51	5000	3250	1.2	24		
D-06-05 19CDB		150	06/21/49	6040	3926	0.6	24		
D-07-04 02DDC		150	06/02/41	6190	4024	0.9	24.5		
D-07-04 02DDD	605510	1050	05/07/91	2750	1788	1.2	27.5	7.1	
D-07-04 02DDD		138	06/20/41	7060	4589	1.1	25		189
D-07-04 03DDD		138	09/23/41	7370	4791				185
D-07-04 03DDD	605980	1200	07/08/98	595	387	0.4	28.5	7.8	
D-07-04 03DDD	623918	1200	07/08/98	445	289		28.5	7.8	
D-07-04 04CBC	623916	1200	06/22/89	510	332	0.1	28.5	8.3	
D-07-04 05CAB	619767	410	07/27/87	775	504	0.6	28.5	8	
D-07-04 05CCC	619749	1010	07/07/98	875	569		29	7.3	
D-07-04 05CCC	619749	1010	05/03/93	890	579	0.4	28.5	7.5	
D-07-04 05CCC	619749	1010	08/26/76	641	417	0.3	29		
D-07-04 05CCC	625531	1210	06/01/93	500	325	1	27.5	8	
D-07-04 14BDD	625531	1210	06/14/89	655	426	1	27.5	8.2	
D-07-04 14BDD	625531	1210	08/25/76	479	311	0.7	25.5		
D-07-04 14DDD	625531	1210	04/08/84	475	309	3	27.5		
D-07-04 14DDD		542	09/16/41	641	417	1.2	25.5		
D-07-04 16CCC		542	09/14/49	541	352	1.6	25.5		
D-07-04 17AAA	605515	1000	05/08/91	2550	1658	1.1	27.5		
D-07-04 17CAA	605531	1500	08/25/76	1300	845	0.3	27		
D-07-04 17CAA	605531	1500	06/01/93	806	523	0.2	24.5	7.7	
D-07-04 17CDD	605531	1500	06/03/86	840	546	0.6	24.5		
D-07-04 23ADC	605531	1500	09/16/41	465	302	1.4	25.5		
D-07-04 23ADC	605531	1500	05/08/84	920	598	0.5	24		
D-07-04 23ADC	605532	1250	06/03/86	400	260	1	27		
D-07-04 23DDC	605532	1250	06/01/93	480	312	1.1	28.5	8.5	
D-07-04 23DDC	801231	1088	07/28/87	540	351	1.2	28	8	143
D-07-04 23DDC	801231	1068	06/10/86	540	351	1.3	27.5		
D-07-04 26DDD		160	09/23/41	6440	4186				183
D-07-04E13CDA		160	06/19/41	6560	4264	2.6	24.5		144
D-07-04E24BAC	605502	1000	08/27/76	2930	1905	1	27.5		
D-07-04E24BAD	605502	1000	05/09/91	2600	1690	1.1	27.5		
D-07-04E24BAD	605961	614	07/08/98	995	647	0.6	24	7.4	
D-07-04E24BAD			09/23/41	6660	4328				151
D-07-04E24BAD			06/19/41	6500	4225	1.7	25		181
D-07-04W01DAD	619750	560	05/03/93	890	579	0.5	25	7.4	
D-07-04W01DAD		514	09/01/41	498	324		24.5		150
D-07-04W01DAD	605506	605	05/07/91	1900	1235	0.9	27	7.4	
D-07-04W01DAD	605503	1000	06/02/86	2240	1456	1.2	27.5		
D-07-04W01DAD	605503	1000	05/07/91	2100	1366	1.2	27.5	7.3	
D-07-04W01DAD	605503	1000	04/25/84	2310	1502	1.6	28		
D-07-04W01DAD			06/19/41	6560	4264	2.2	25.5		
D-07-04W01DAD	605505	795	05/07/91	1500	975	0.7	27.5	7.5	
D-07-04W01DAD		840	03/29/61	1340	871		22	7.2	
D-07-04W01DAD			04/08/84	885	566	1.2	26		
D-07-04W01DAD	619751	560	04/17/85	750	488	0.5	27		
D-07-04W01DAD	605504	1200	05/07/91	2000	1300	0.9	26.5	7.3	
D-07-04W01DAD	609663	950	04/08/91	1500	975	1.4	29.5	7.5	
D-07-04W01DAD	609693	840	04/08/91	1460	849	1.4	29	7.6	
D-07-04W01DAD		547	09/16/41	844	549		25		
D-07-04W01DAD		97	06/19/41	5860	3809	0.5			89
D-07-04W01DAD	606188	850	07/08/86	1020	663	1.5	28		
D-07-04W01DAD	606188	850	05/04/93	1230	800	1.4	28	7.4	
D-07-04W01DAD		580	09/16/41	502	326		25		145
D-07-04W01DCC		580	07/27/76	734	477	0.5	30		
D-07-04W01DCC	806277	280	09/16/41	534	347		25		
D-07-04W13AAD	606187	920	09/14/49	1200	780	0.5			132
D-07-04W13AAD	606187	920	08/23/50	1360	884	0.5			125
D-07-04W13BAD	606187	920	09/23/41	604	393	0.8	25		120
D-07-04W13BAD	623837	1070	07/17/98	480	312		32.5	8.3	
D-07-04W24-BAD	623837	1070	04/26/84	478	311	0.5	31		
D-07-04W25ADD	623836	1093	07/27/98	2370	1541	0.8	28	7.4	
D-07-04W36BAC	606256	550	08/09/76	930	605	0.4	27		
D-07-05 07DDD	606256	550	08/16/89	1280	832	0.8	25	7.6	
D-07-05 18DCC	606256	550	10/24/90	1220	793	0.7	26	7	
D-07-05 18DCC	622158		11/09/88	430	280	2.5	30.5		
D-07-05 18DDD	622158		07/10/88	405	263	0.8	32	8.6	
D-07-05 18DDD		380	05/04/84	9500	6175	3.5			
D-07-05 19CDA	620626	908	04/16/84	955	621	3.2	31		

NOTES:
 Total Dissolved Solids (TDS) is an calculated estimation, 65% of the conductivity.
 Conductivity is expressed in microsiemens per liter.
 Temperature is expressed in degrees Celsius
 Fluoride, Alkalinity, and Dissolved Oxygen are expressed in milligrams per liter.



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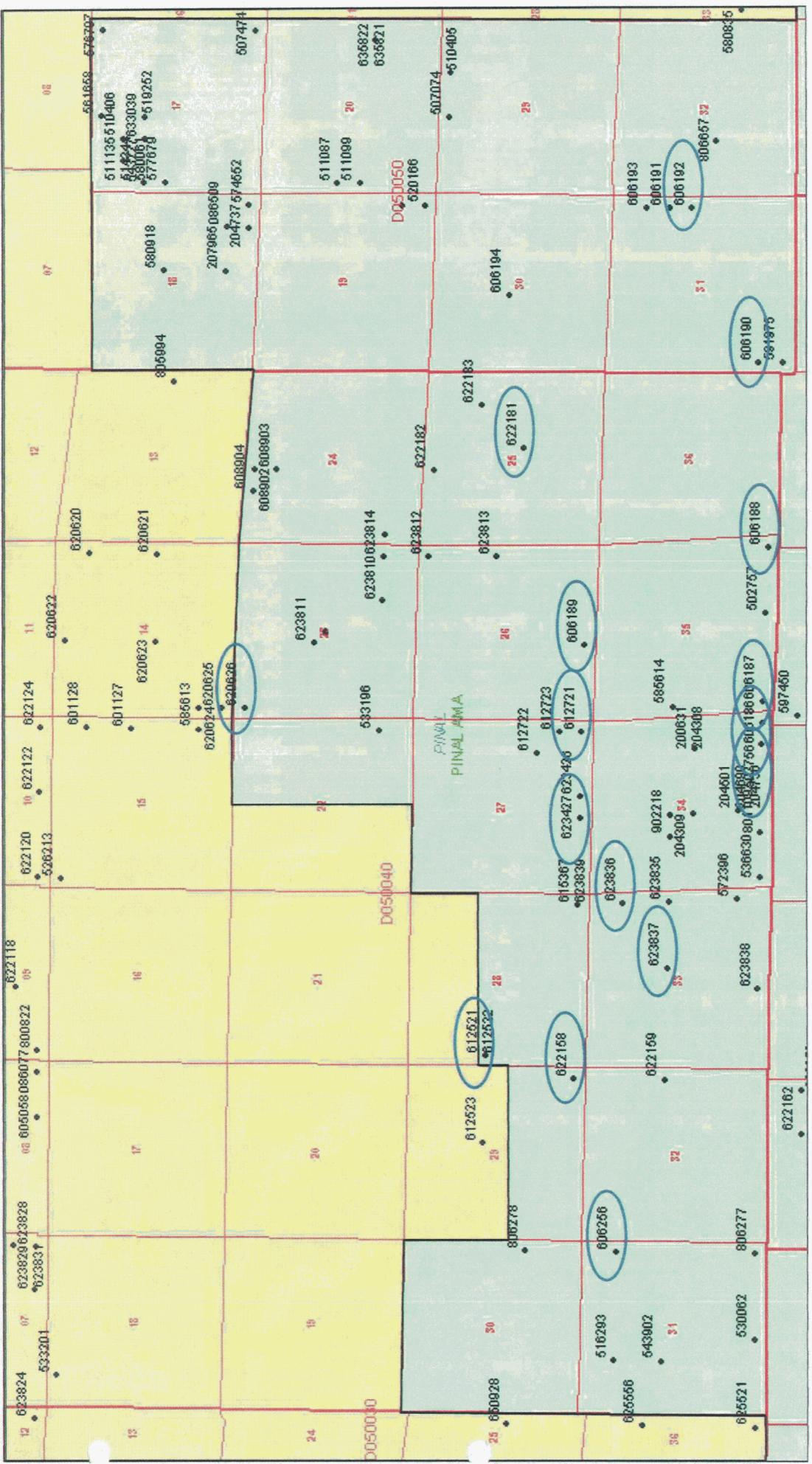


FIGURE 2
Registered Well Inventory Map
Southeast Service Area
Global Water Management, LLC
Pinal County, Arizona

Approximate Scale (miles)

0 0.5 1.0 1.5 2.0

● 625627 ● Well Suggested For Further Evaluation



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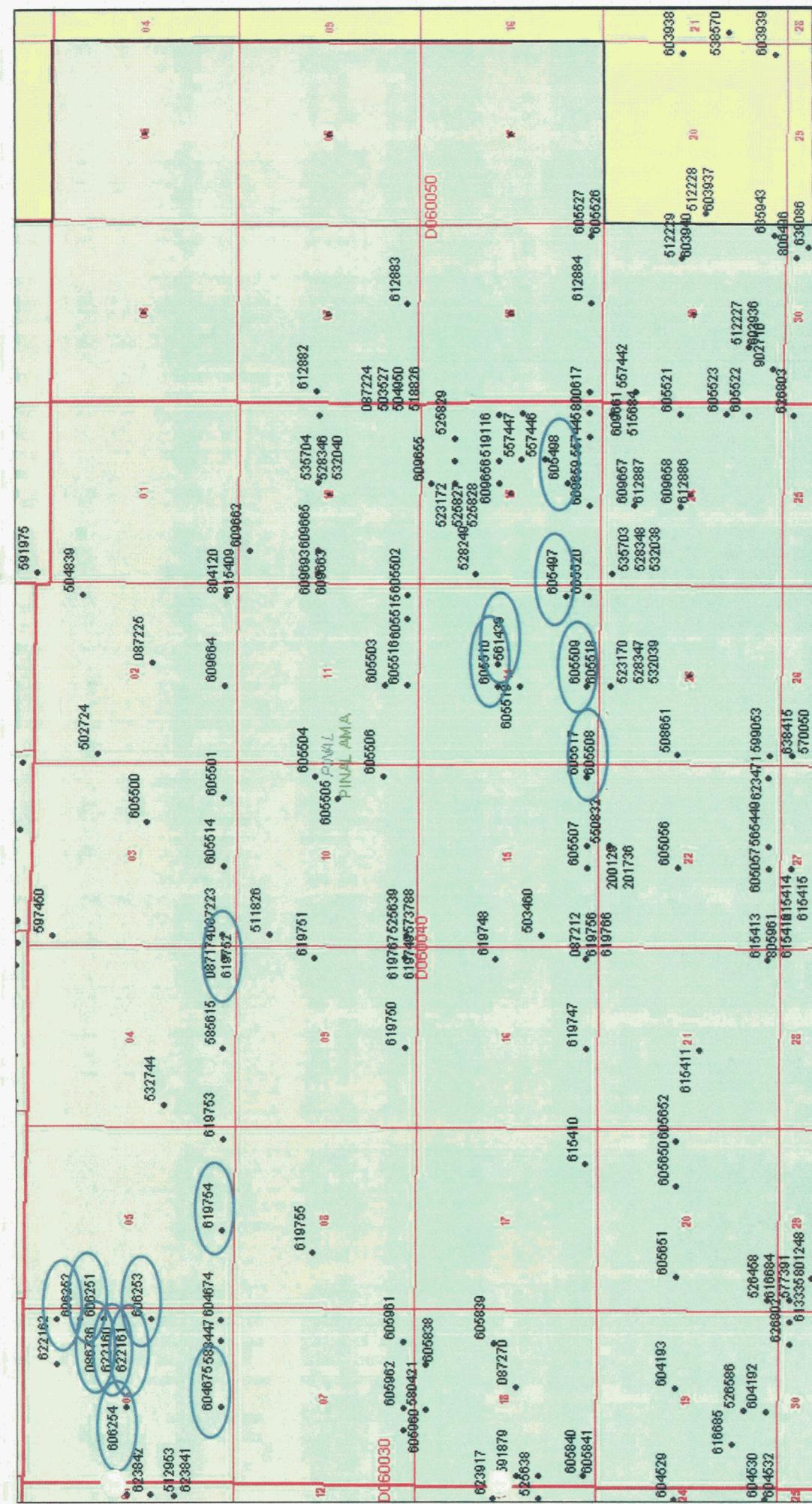
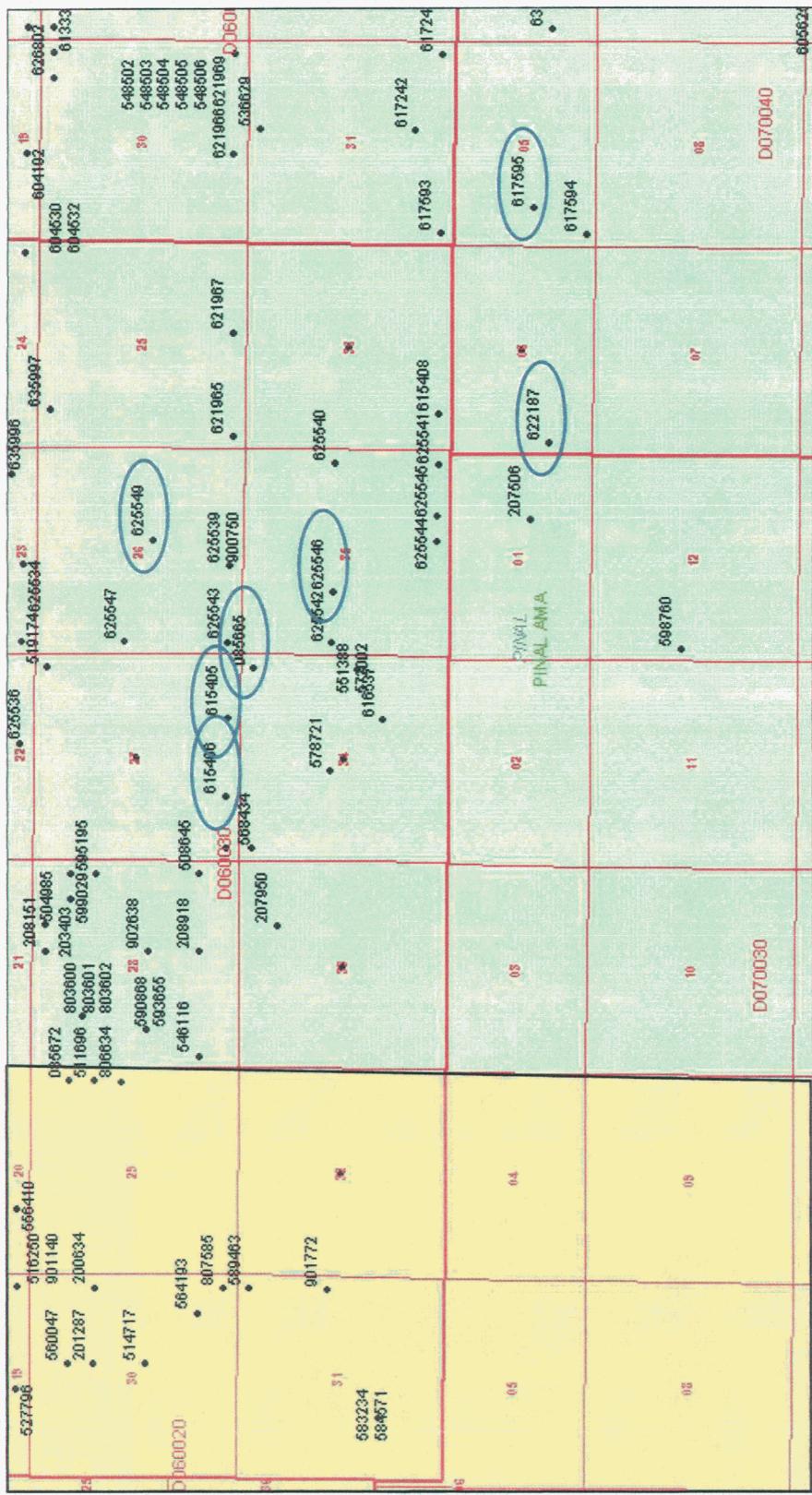


FIGURE 3
Registered Well Inventory Map
Southeast Service Area
Global Water Management, LLC
Pinal County, Arizona

Well Suggested For Further Evaluation

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Approximate Scale (miles)

Well Suggested For Further Evaluation

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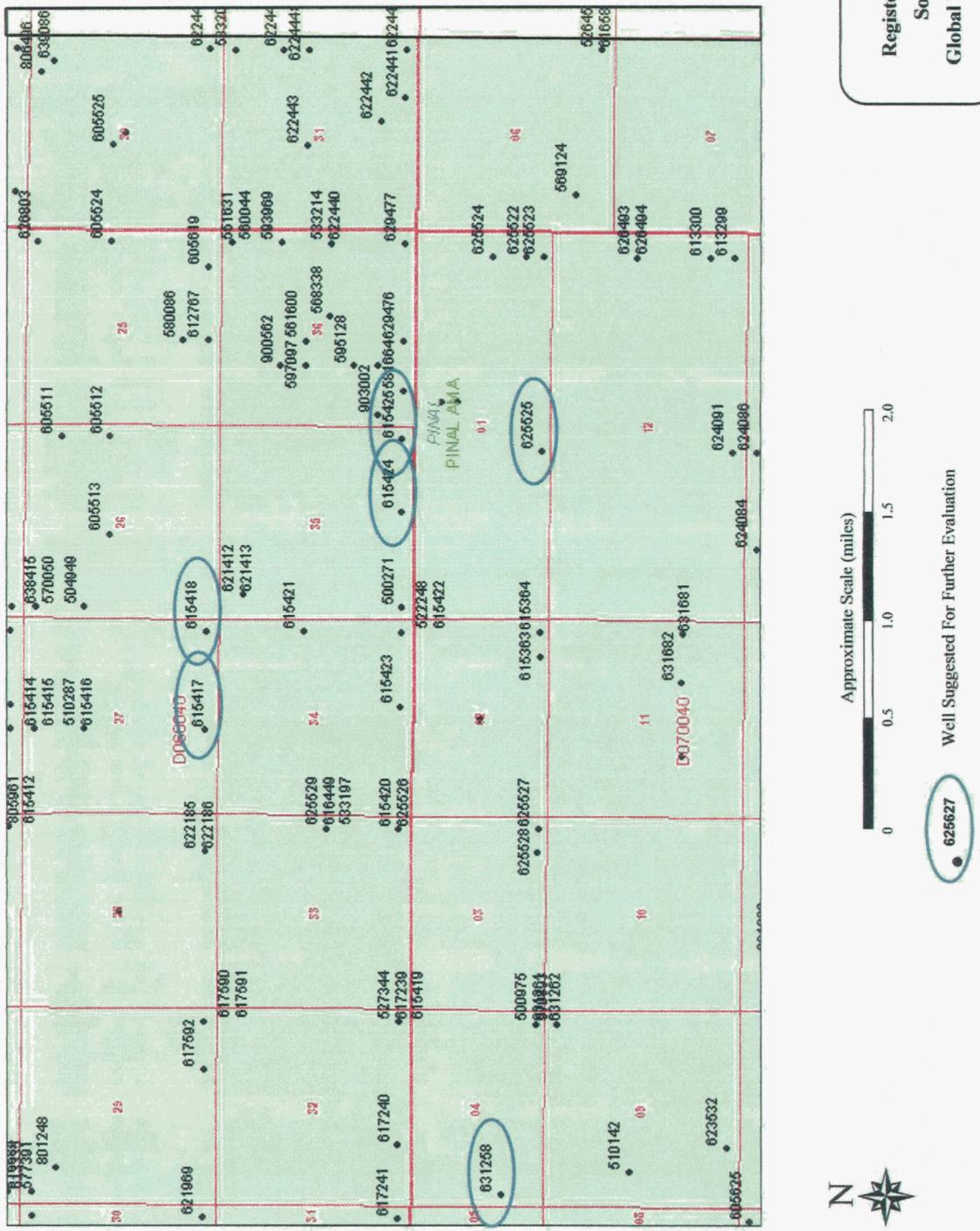
FIGURE 5

Registered Well Inventory Map

Southeast Service Area

Global Water Management, LLC

Pinal County, Arizona



Southeast Service Area
Global Water Management, LLC

Water Manage

Southwest Missouri Service Area

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Registered Well Inventory Map

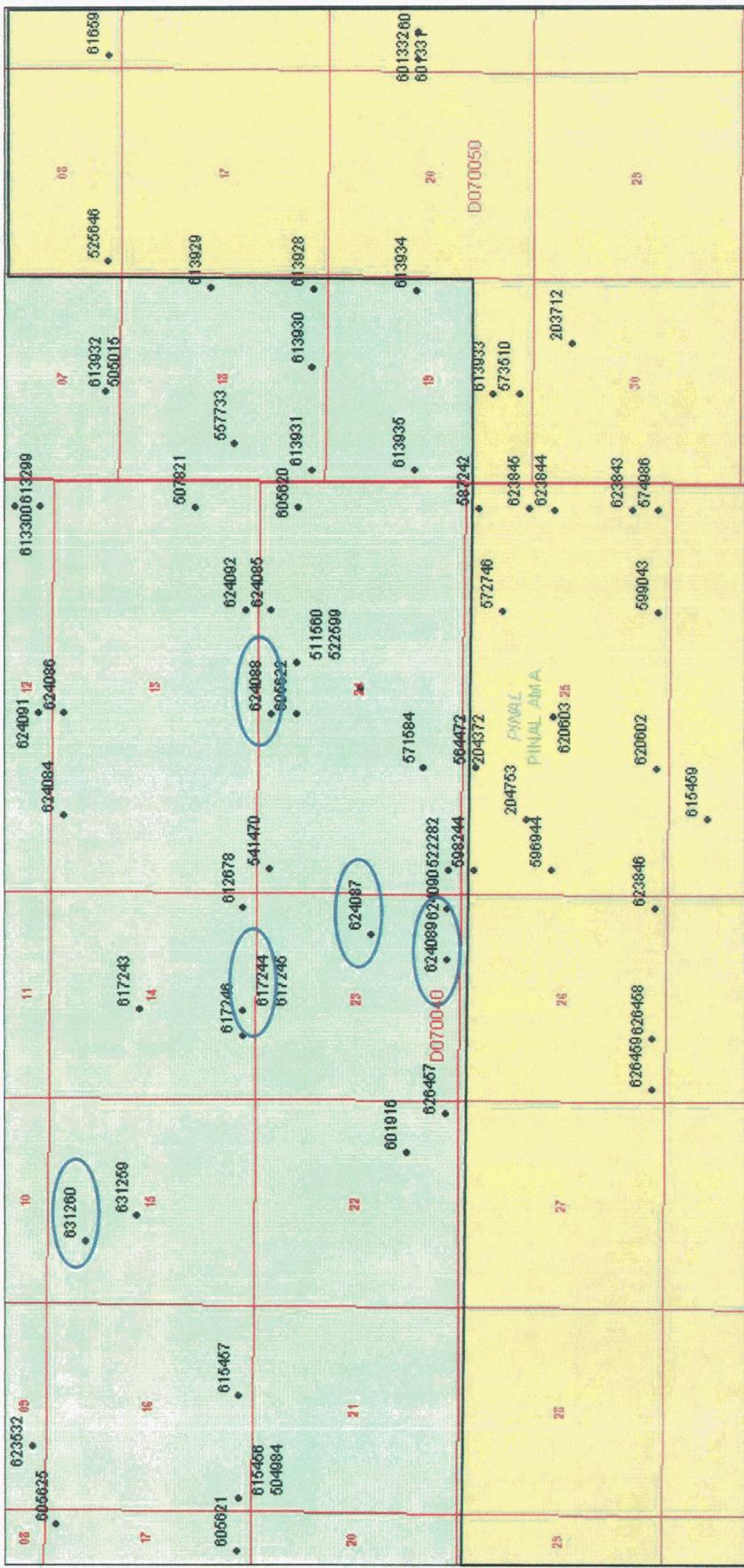
FIGURE 6

Approximate Scale (miles)



Well Suggested For Further Evaluation

 CLEAR CREEK ASSOCIATES

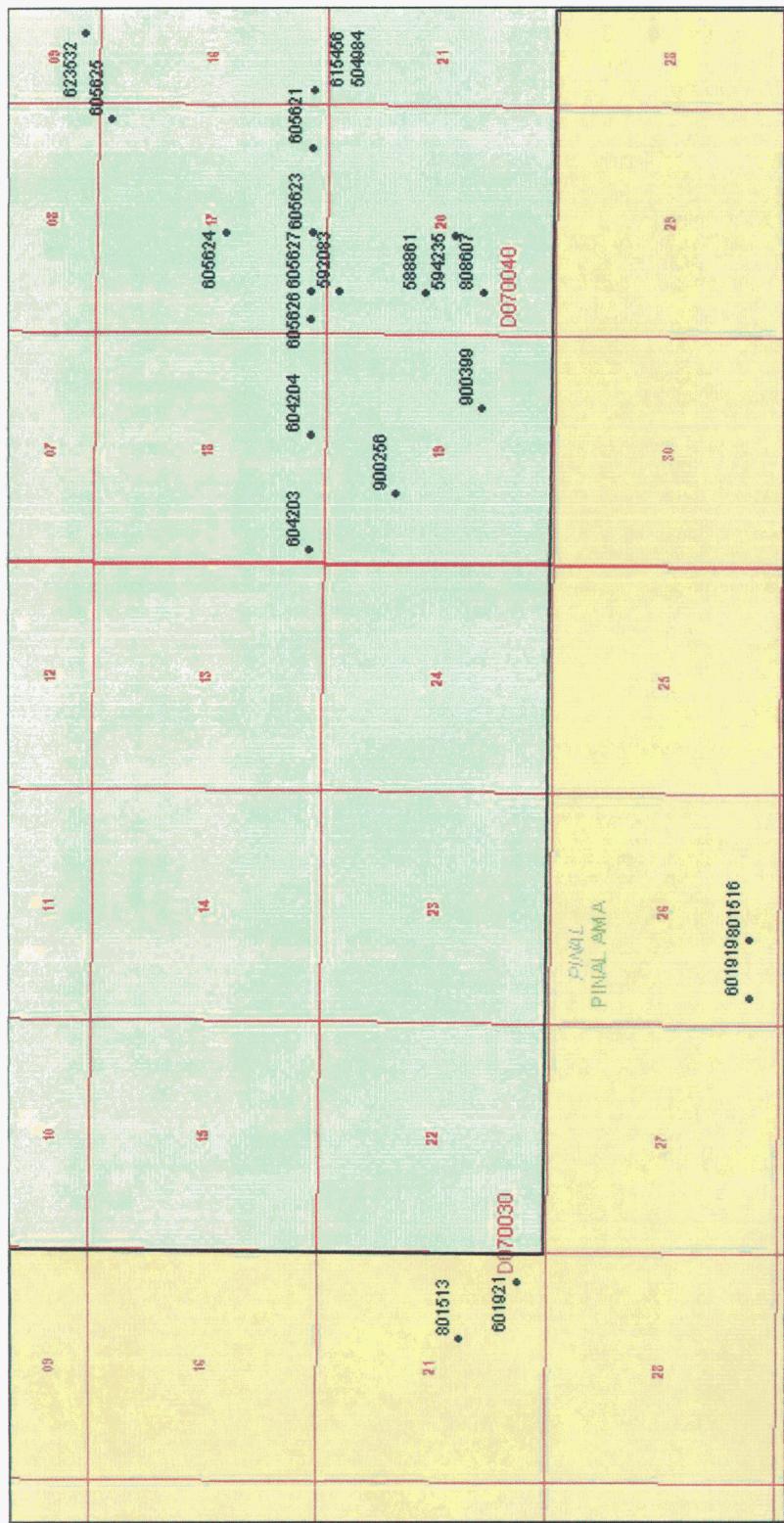


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Well Suggested For Further Evaluation

FIGURE 7
Registered Well Inventory Map
Southeast Service Area
Global Water Management, LLC
Pinal County, Arizona



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FIGURE 8
Registered Well Inventory Map
Southeast Service Area
Global Water Management, LLC
Pinal County, Arizona

Approximate Scale (miles)



Well Suggested For Further Evaluation